Remarks & Arguments

The application presently contains the following claims:

Independent Claim #	*Dependent Claim #s*
1	2-4
5	6-7
8	9-11
12	13-15
16	17-18

Claims 19-34 are withdrawn by the applicant. Claims 1, 5, and 8 have been amended. Support for the claim amendments can be found as follows:

Claim #'s	*Antecedent Support Location*
1, 5 and 8	FIG. 4 and with further reference to paragraphs [0004] and [0024] which clearly describes the all-polymeric inner liner.

Claims 12-18 have been indicated to be allowed.

35 U.S.C. §112 Rejection, second paragraph & Responsive Arguments

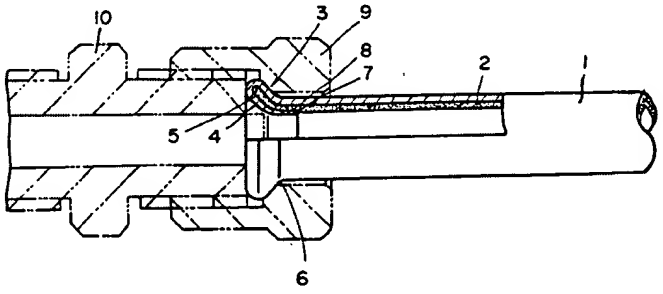
The examiner has rejected claim 4 under this section for failing to particularly point out and distinctly claim the subject matter of the invention. Specifically, the examiner observed that claim 4 depended from cancelled claim 3. The applicant's attorney thanks the examiner for this observation and has reinstated originally filed claims 2-3, thereby removing this issue.

35 U.S.C. §103 Rejection & Responsive Arguments

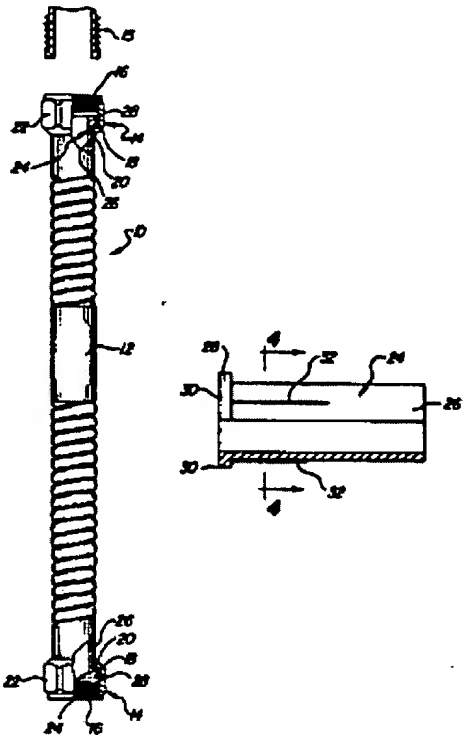
The examiner has rejected claims 1 and 8 under this section, subparagraph (a) as being unpatentable over US 4,598,937 to Sugao in view of US 5,169,180 to Villoni et al. In light of the amendment made to independent claims 1, 5 and 8, this rejection is believed to have been overcome when coupled with the following arguments.

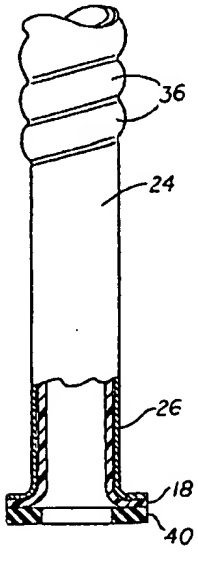
The examiner indicted that Sugao shows a connector having a flared end and a bendable outer metallic sleeve. The examiner also coupled the teachings of Villoni to show the double-ended flared configuration and render obvious the previously identified claims.

The applicant's attorney would respectfully invite the examiner to review this conclusion in light of the amendments made to the identified independent claims, namely #1, #5 and #8. It is noted that Sugao does not show a flared connector whereby an all-polymeric passageway is achieved, as presently claimed by the applicant. In fact, as clearly shown by Sugao, this is expressly avoided by the fact that the metallic outer layer doubles back upon itself, as clearly shown in FIG. 1 wherein the metallic tube (1) is clearly shown wrapping back upon itself and enclosing the rubber tube (2). The Sugao invention expressly teaches away from the Rowley invention. Further evidence of this comes from Sugao himself in col. 2, lines 5-8 wherein he states that "The metal pipe 1 has a radially outwardly extending double flared end 3 including an inner wall portion 5 having an outer surface 4 which defines a seat for mating holder 10." Sugao recognized and taught that the sealing surface in his invention was the metal folded back portion of the tube. This is completely the opposite of the Rowley invention where it is the inner portion of the polymeric tube that serves as the sealing surface rather than a folded back portion of the outer metallic tube.



Recognizing this fact and the deficiencies of Sugao, the examiner coupled the teachings of Villoni. As illustrated in the Figure to the right, Villoni uses a tube insert as illustrated by reference numeral 24, which is positioned into each end of the tube to a distance of approximately 2 inches. This is clearly taught in col. 3, lines 3-17 which states "In order to reduce the corrosion resulting form dielectric conduction between the dissimilar metals of the tubing 12 and the male nipple to which the assembly 10 is attached, an insulator sleeve 24 is inserted within the tubing 12 and connector 14. The sleeve 24 is approximately **two inches in length** and made of polybutylene to isolate the male nipple from the tubing 12 eliminating dielectric contact. The insulator sleeve 24 has a tubular body 26 and a flat radial flange 28 integrally formed at one end of the body 26. The tubular body 26 is received within the tubing 12 while the flange 28 seats within the connector 14. As a result, fluid flow through the assembly is not affected while the flange 28 of the sleeve 24 acts as a washer for the connector 14 for sealing attachment."





The Rowley invention as amended, now requires an all-polymeric conduit which eliminates any possibility of copper ion leaching thereby enabling the connection to meet the 1992 United States EPA standard for lead and copper in municipal drinking water, through the recognition that one of the keys was to utilize the inner wall of the inner polymeric tube as the sealing surface as illustrated in the figure to the left. It is through the flaring of the inner polymeric tube 18 that the inner surface of this tube will act as the sealing surface. Following the teachings of Sugao would lead to a configuration whereby the outer metallic tube 26 would serve as the sealing surface. Coupling the teachings of Villoni would teach that the inner polymeric tube is a mere two inches in length. Coupling these teachings still results in a tube where either

the metallic surface serves as the sealing surface or the inner polymeric tube being a short insert. In no instance would it be possible to derive the claimed invention of Rowley which is a completely all-polymeric conduit for which the water does not contact the copper tube by the flaring of the inner polymeric tube to permit it to act as a sealing surface coupled with the fact that the inner tube extends throughout the entire length of the outer metallic tube. The teachings of Sugao and Villoni, in combination, do not logically result in the claimed Rowley invention.

The examiner has rejected claims 5-6 and 9 under this section over Sugao and Villoni et al. as applied to claims 1 and 8 discussed above and further in view of Longfellow. The examiner indicated that Longfellow disclosed a similar-type coupling (a flexible, ribbed, lined connector with flared ends connected via threaded nuts and that it would have been obvious to one having ordinary skill in the art to provide the bendable fluid connection line of Sugao with the ribs or corrugations taught by Longfellow.

First, it is noted that Longfellow does not even show a polymeric-lined copper tube, but rather a two layer tube wherein the two layers are chosen from aluminum, or brass or stainless steel with aluminum being preferred for the inner layer. While the interchangeability of various metals is known, there is no reference that the examiner has identified that teaches the interchangeability of metal and plastic for this application.

Additionally, Longfellow '328 is a "gas" appliance connector, as might be used to hook up a gas oven or a gas dryer. It is used to transfer gases, which is why the tubes are both metallic. The use of a polymer would be inapplicable in this environment in that polymers are permeable to gases, thereby creating the possibility of an explosion due to gas leakage through the polymer. An inventor looking to solve the problem of connecting liquid conduits together, would not likely look into the gas connector field, because the considerations for each field are so vastly different. Because they are non-analogous fields of art, it is unlikely that an inventor would be combining the teachings of Longfellow '328 with those of Sugao or Villoni. Ribs or corrugations were shown by Villoni and therefore, Longfellow added nothing to the teachings which were part of the Prior Art. In fact, the teachings of Longfellow were available to both Sugao or Villoni and it would appear that both inventions shifted away from the teachings of Longfellow. Sugao abandoned the dual walled metallic construction in favor of straight walled tubing sections, the outer of which bended back upon itself to form the sealing surface. Villoni did appear to revive the ribbed aspect of the tubing, but believed that it was important to

eliminate the complete inner covering by a polymeric inner tube in favor of the short two inch insert approach in order to maintain flexibility. Therefore, combining the teachings of all three of the patents still fail to result in the claimed product of Rowley. None of the references show an all-plastic inner liner which runs the entire length of the outer copper tube which serves the double purposes of having its inner surface acting as the sealing surface and additionally which eliminates any liquid contact with the outer copper tube. It is only this Rowley configuration which can meet the new EPA standards through elimination of water with copper.

The examiner has additionally rejected claims 7, 10-11 as being unpatentable over Sugao in view of Villoni and Longfellow as applied to claims 5-6 and 9 and further in view of Kurtz, US 3,399,908. The examiner represented that the combination of Sugao, Villoni and Longfellow discloses the claimed device as noted above with the exception of the use of washers 24.

The applicant's attorney would respectfully point out to the examiner that these "washers 24" are in fact, metal gaskets (see col. 3, line 34). It is represented that these gaskets may be lined or faced, essentially upon the internal axial surfaces only, with coatings 27 of inert plastic material. See col. 3, lines 41-43. This leaves the outer surface as exposed metal.

In point of fact, Longfellow '328 had all of the teachings of Kurtz '908 at his disposal, and expressly chose not to follow them and utilized two metal tubes in his connector. Sugao and Villoni appear to have rejected the teachings of Kurtz in their patented products. It took almost 30 years from the time that inventors had the teachings of Longfellow and Kurtz to combine them in the manner which the examiner has suggested. This long period of elapsed time certainly leads support to the conclusion that making this link was "unobvious."

Request for Reconsideration

Applicant believes that independent claims 1, 5, 8, 12 and 16 clearly define over the prior art and that the distinctions between the present invention and the prior art would not have been obvious to one of ordinary skill in the art. Additionally, the remaining dependent claims depend from and contain all of the limitations of independent claims believed to distinguish over the Prior Art and are patentable by

virtue of their dependency. All pending claims are thought to be allowable and reconsideration by the Examiner is respectfully requested.

It is respectfully submitted that no new additional searching will be required by the examiner.

Fee Determination Record

A fee determination sheet is attached for this amendment response. If additional fees are believed to be due at this time, the Commissioner is hereby authorized to charge any additional fee required to effect the filing of this document to Account No. 50-0983.

Conclusion

If the examiner believes that a telephonic conversation would facilitate a resolution of any and/or all of the outstanding issues pending in this application, then such a call is cordially invited at the convenience of the examiner.

Respectfully Submitted,
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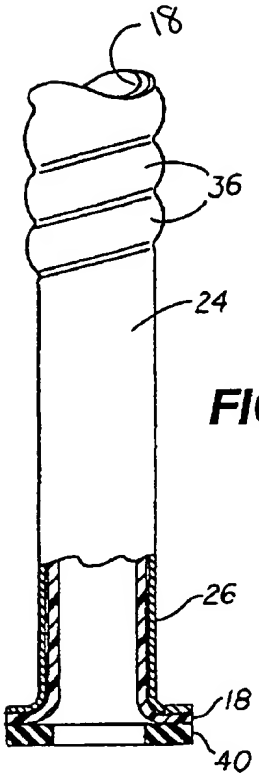

FIG. 5

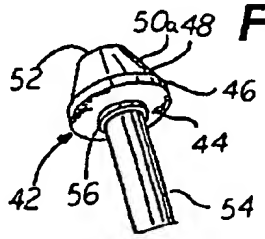

FIG. 6

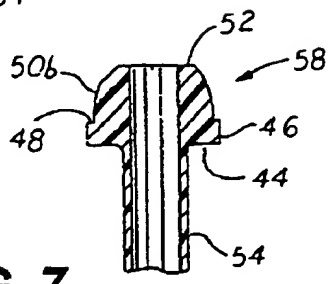

FIG. 7

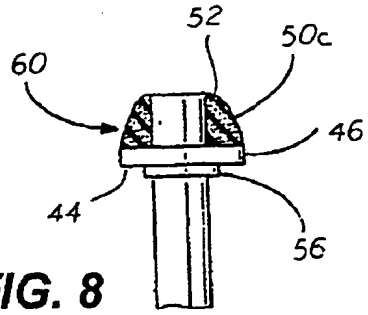

FIG. 8

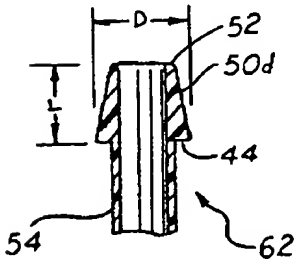

FIG. 9

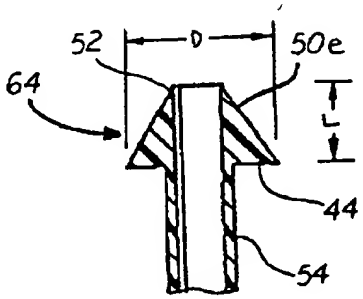

FIG. 10